COMMITTEE ON SCIENCE

SUITE 2320 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6301
(202) 225-6371
TTY: (202) 226-4410
http://www.house.gov/science/welcome.htm

March 16, 2001

The Honorable Jim Nussle
Chairman
Committee on the Budget
Washington, DC 20515

Dear Mr. Chairman:

Pursuant to the provisions of clause 4(f) of House Rule X of the Rules of the House of Representatives for the 107th Congress and Section 301(d) of the Congressional Budget Act of 1974, as amended, I am transmitting the Views and Estimates of the Committee on Science for Fiscal Year 2002.

I look forward to working with you and your Committee in developing this year's budget.

Sincerely,

SHERWOOD L. BOEHLERT
Chairman

cc: The Honorable Ralph Hall
The Honorable John Spratt

VIEWS AND ESTIMATES
COMMITTEE ON SCIENCE
FISCAL YEAR 2002

BACKGROUND

Science and technology are the keystones of our economic prosperity. Economists attribute much of the nation's improvement in productivity in recent years to the fruits of research and development (R&D) – and that productivity improvement has fueled the longest period of economic expansion in our nation's history.

Moreover, science and technology have the potential to cure numerous domestic and global social ills – disease, poverty, hunger, cultural isolation and environmental degradation, to name just a few.

But advances in science and technology do not come cheap or without focused effort; nor are they solely the responsibility of the private sector. Throughout our history, and especially in the years since World War II, the federal government has played a fundamental role in underwriting research and development, especially (but not exclusively) basic research at the nation's universities. This investment, which has a long history of bipartisan support, has paid off with handsome benefits for all Americans.

While the percentage of national R&D sponsored by the federal government has declined in recent years, the federal role remains essential. Indeed, as competitive pressures have led many industrial enterprises to focus research on projects with shorter-term benefits, longer-term research depends more than ever on federal support.

None of these assertions is new or unfounded. They are, for example, discussed in the Committee's report *Unlocking Our Future: Toward a New National Science Policy*, prepared by Congressman Vernon Ehlers, at the request of the Speaker, in the 105th Congress.

ISSUES FOR THE 107TH CONGRESS

In the 107th Congress, the Committee intends to continue to build on, and implement the principles in the Ehlers report and similar reports that have underscored the need to invest in R&D.

The Committee will be especially attentive to issues relating to education, energy policy and the environment – three issues central to the nation in which the science agencies under the Committee's jurisdiction play a significant role.

No research and development agenda will be successful or long-lived without a strong, healthy education system -- a system that from kindergarten through graduate school ensures that the nation has a scientifically literate citizenry and an adequate science and engineering workforce. Currently, our system provides neither. The most recent international surveys show American students lagging behind their foreign counterparts in science, and American performance gets worse the longer students are in school. Moreover, the continuing need to increase the number of H-1B visas is a glaring indication that too few Americans are prepared for jobs that require technical skills.

In his Budget Blueprint, the President rightly acknowledges that the National Science Foundation (NSF) has an important role to play in improving science and mathematics education. The Committee looks forward to working with the Administration and our colleagues in Congress to ensure that NSF has the funding to contribute significantly to federal efforts to improve science and math education.

Energy policy also depends on science and technology – to improve the extraction and efficiency of fossil fuels, and to develop newer, safer, more efficient and more environmentally benign ways to generate and exploit energy. Therefore, the energy supply programs of the Department of Energy must be adequately funded. Those programs also must be reviewed to ensure that they are operating in the most efficient and effective way.

Environmental policy is also – or certainly ought to be – founded on science and technology. Environmental laws and regulations must be based on the soundest and most recent research. In addition, R&D can lead to environmental solutions by developing more environmentally friendly technologies.

The Committee intends to work to improve the quality of environmental research. The Committee will be reviewing the organizational structure of research at the Environmental Protection Agency (EPA). The Committee is pleased to see more agencies, most notably NSF, making a commitment to environmental research – an area in which many fundamental questions remain unanswered.

The Committee will also work to enhance federal research in other fundamental areas, such as information technology, which are important to our economy. The Committee will once again draw on the recommendations of the Congressionally-chartered President's Information Technology Advisory Committee (PITAC), whose term was recently extended by President Bush.

Finally, the Committee will review the balance within the federal research portfolio, which has become a growing concern as the budget of the National Institutes of Health (NIH) has grown far faster than that of any other science agency. No one would gainsay the contributions of NIH, but nor can anyone deny that scientific progress, even in biomedical fields, depends on advances in a wide variety of disciplines.

The Committee looks forward to working with the Administration and our Congressional colleagues to try to develop ways to determine whether the current portfolio is too heavily weighted toward NIH, and, if it is, to figure out what a balanced portfolio would be.

RECOMMENDATIONS FOR AGENCIES

These recommendations are general because the President's budget document, *A Blueprint for New Beginnings,* understandably, provides only sketchy details at this point for most of the agencies under the Committee's jurisdiction.

SUBCOMMITTEE ON RESEARCH

National Science Foundation

NSF, which the Committee intends to reauthorize this year, funds about 25 percent of the basic research conducted at U.S. universities, and a far higher percentage of the research in selected fields. In addition, NSF funds programs to improve K-12 and undergraduate education, and its fellowships and research assistantships support many graduate and post-doctoral students.

In fiscal 2001, NSF received a 14 percent increase, the largest dollar increase in its history, and some Members of Congress, on a bipartisan basis, have called for doubling NSF's budget over five years. President Ronald Reagan called for such a doubling in the 1980s.

The Committee is concerned that the Budget Blueprint calls for only a minuscule increase in the NSF budget for FY 2002, and appears to cut funding for research grants and/or research equipment (even in current dollars). While the Committee understands that macroeconomic constraints may prevent NSF from increasing at last year's unprecedented rate, NSF should continue to grow in FY2002 and future years. The Committee looks forward to working with the Administration, which has expressed support for NSF's mission and programs, to ensure that its funding is commensurate with its importance.

In addition, while the Committee is gratified that the President has recognized the essential work of NSF in improving science and mathematics education, the Committee believes that greater funding may be necessary to carry out that mission. The Administration has recommended spending $200 million on a program of new grants for partnerships among states, universities and school districts – a promising approach. However, the proposal includes only $90 million in new funding, and the Committee awaits with interest the specific proposal for redirecting current education spending at NSF.

The Committee is pleased that the Administration will be reviewing NSF programs to determine the optimal grant size and duration, and to improve management of large projects.

Federal Emergency Management Agency – United States Fire Administration

The Fire Administration helps localities improve their ability to prevent, control and extinguish fires. The enacted authorization level (P.L. 106-503) for the Fire Administration programs within the Committee's jurisdiction for FY 2002 is $47.8 million.

National Earthquake Hazards Reduction Program (NEHRP)

NEHRP is an interagency program led by the Federal Emergency Management Agency and including NSF, the National Institute of Standards and Technology, and the U.S. Geological Survey. The program is credited with reducing the loss of life and property from earthquakes through improving emergency response, knowledge of earthquake risks, and earthquake engineering. Most states face at least some risk from earthquakes.

The enacted authorization level (P.L. 106-503) for NEHRP for FY 2002 is $108.5 million for the base program, with additional authorizations for multi-year efforts to create and operate the Advanced National Seismic Research and Monitoring System, to create the George E. Brown, Jr. Network for Earthquake Engineering Simulation, to study the New Madrid fault, which threatens the eastern half of the United States; and to fund a Scientific Earthquake Studies Advisory Committee at the Geological Survey.

SUBCOMMITTEE ON ENVIRONMENT, TECHNOLOGY, AND STANDARDS

Environmental Protection Agency (EPA)

The Committee has jurisdiction over EPA research and development funded in three appropriations accounts: Environmental Programs and Management, including the Science Advisory Board; Science and Technology, including Superfund R&D; Leaking Underground Storage Tank R&D; and Oil Spill Research; and State and Tribal Assistance Grants (Clean Air Partnership Demonstration Fund).

The Budget Blueprint provides no indication of funding levels for EPA's R&D programs, although it does, encouragingly, state that "EPA intends to improve the role of science in decision-making." The Committee looks forward to working with the Administration to accomplish this, both by reviewing the organizational structure of R&D at EPA, and by ensuring adequate funding for R&D programs. In doing so, the Committee will draw heavily on the National Research Council's report *Strengthening Science at the U.S. Environmental Protection Agency*, published last year.

National Oceanic and Atmospheric Administration (NOAA)

The work of NOAA, which accounts for more than half of the Department of Commerce's budget, affects every American, particularly through the National Weather Service.

The Committee is pleased that the Budget Blueprint calls for an increase in funding for NOAA overall and increased funding of $83 million to continue procurement of the next generation of weather satellites. The Committee also notes the Administration's stated intention to reallocate funds within NOAA "to ensure that funds are targeted to the highest priority environmental needs." The Committee awaits, with interest, the specific details of the proposed reallocation.

The Committee believes that the nation must vastly increase its knowledge and understanding of the atmosphere, oceans and climate – areas of research in which progress has been made in recent years, largely because of the increased availability of technology. The Committee looks forward to working with the Administration to ensure that research progress continues apace.

Department of Commerce --Technology Administration

The Budget Blueprint provides few indications about plans for the programs under the Technology Administration, which the Committee created in 1988 (P.L. 100-48).

First priority must be given to enhancing the Scientific and Technical Research and Services account of the National Institute of Standards and Technology (NIST). As NIST celebrates its 100th anniversary, its laboratory programs, which help industry compete at home and abroad, are more important than ever.

The Committee also continues to support the Manufacturing Extension Partnership, which helps smaller manufacturers modernize to remain competitive.

Finally, the Committee looks forward to working with the Administration as it reviews the Advanced Technology Program (ATP). The Committee hopes that ways can be found to structure ATP so it can continue to be a catalyst for innovation without being an ideological lightning rod. One possible approach would be to increase the role of the states in ATP.

National Technical Information Service (NTIS)

The Committee looks forward to working with the Administration to determine the best method to enable NTIS to inform the public as a self-sustaining entity.

Department of Transportation – Surface Transportation Research and Development

The Committee looks forward to working with the Administration to ensure that adequate funding is provided for this account. In particular, the Committee is interested in steps that would increase the use of alternative fueled vehicles.

SUBCOMMITTEE ON ENERGY

Department of Energy (DOE)

The Committee has jurisdiction over DOE's civilian energy research, development, and demonstration programs and commercial application of energy technology activities.

The Committee is concerned that the Budget Blueprint contains a 3 percent cut in DOE's budget from FY 2001 levels. However, it is impossible to analyze the implications of this proposal without further details.

The Committee is particularly concerned about the future of the Office of Science, which funds user facilities and academic research. In recent years, many user facilities have had to cut back their hours because of funding limitations, idling investments that have cost taxpayers billions. In addition, the Committee believes that money must be budgeted now to address the aging of many DOE facilities and staff. The Committee continues to closely monitor the construction of the Spallation Neutron Source at Oak Ridge National Laboratory to ensure that it remains on schedule and budget.

The Committee is pleased that the Budget Blueprint calls for increased spending on solar and renewable energy research. However, the Committee believes that this increased spending should occur regardless of the fate of the Administration's proposal to open up the Arctic National Wildlife Refuge to drilling. Energy conservation and efficiency programs also must be part of a comprehensive energy policy.

The Committee is also pleased that the Budget Blueprint calls for reforms and investment in the Clean Coal program. The Committee awaits, with interest, the details of these proposals. The Committee believes the nation requires a balanced energy supply research portfolio with healthy funding for coal, oil, nuclear and renewable energy sources, as well as energy efficiency and conservation.

The Committee shares the Administration's concerns about DOE contract management, and its plans to review DOE cost-sharing policies. The Committee is pleased with the Administration's praise for the program devoted to advanced automotive R&D.

SUBCOMMITTEE ON SPACE AND AERONAUTICS

National Aeronautics and Space Administration (NASA)

The Budget Blueprint includes a 2 percent increase for NASA for FY 2002, but it is difficult to assess the adequacy of that request without further details.

Of greatest concern is the future of the International Space Station. The Committee continues to support development of the Space Station within the $25 billion development cap enacted into law last year (P.L 106-391). The Committee applauds the Administration for reviewing the costs of the Space Station and for its commitment to solving the Space Station's funding problems within the Human Space Flight appropriations accounts. However, the Committee remains concerned that the proposed steps to contain the Space Station's cost growth may prove inadequate to addressing a $4 billion problem. The Committee is especially concerned that NASA does not seem to have any milestones or contingency plans to evaluate the success of its redesign proposals or to respond if the redesign saves less money than expected. Moreover, the redesign plans could create troubles of their own. For example, reducing or eliminating work on the propulsion module and Crew Return Vehicle may prolong U.S. dependence on Russia for critical Station functions. The Committee awaits additional detail from the Administration on its plans to address these issues and to preserve a viable research program on a redesigned Space Station.

The Committee agrees with the Administration's commitment to safe operation of the Space Shuttle and its intention to move forward with Space Shuttle safety upgrades.

The Committee appreciates the Administration's commitment to space and earth science, particularly its decision to ensure that the Mars exploration program and the second generation of Earth Observing Satellites are adequately funded. The Committee, noting the cancellation of the Pluto-Kuiper Express, believes that NASA should develop an integrated science strategy for exploring the outer planets.

The Committee is concerned by the indication that aeronautics programs will be cut, continuing a baleful trend. The Committee urges the Administration to quickly appoint the Commission on the Future of the Aerospace Industry called for in the Defense Authorization Act for fiscal 2001 (P.L. 106-398).

The Committee endorses the principles laid out in the Budget Blueprint for the Space Launch Initiative.

The Committee looks forward to working with the Administration as it reviews ways to strengthen NASA's "critical capabilities."

The enacted authorization level for NASA for FY 2002 (P.L.106-391) is $14,625,400,000.

Federal Aviation Administration (FAA)

The Committee looks forward to working with the Administration to develop an integrated R&D strategy for aeronautics. This will require an increased investment in research and development, both to ensure the health of the U.S. aeronautics industry – which, from its infancy, has drawn on federally supported R&D – and to resolve the growing problems in air traffic control. Our nation's competitors, especially European governments, are making such an investment. If action is not taken now, the nation will face a future crisis. Already, the average age of U.S. aeronautical engineers is reaching the upper 40s and a lack of domestic wind tunnels is driving U.S. engineers to rent time in European research facilities.

The Committee calls on the Administration to allow modest growth in the Office of Commercial Space Transportation to meet the goals of the Commercial Space Transportation Competitiveness Act of 2000 (P.L. 106-405). That law authorizes $16,478,000 for the Office in FY 2002.

Department of Commerce – Office of Space Commercialization

The Committee urges continued funding of this office, which has played a useful role in promoting the commercialization of space, working with private industry, and making the best use of the Global Positioning System. P.L. 106-405 authorizes $608,000 for the Office in FY 2002.

Signatures for Committee on Science Views and Estimates

The Honorable Sherwood L. Boehlert
Chairman
The Honorable Lamar S. Smith
The Honorable Christopher Shays
The Honorable Curt Weldon
The Honorable Joe Barton
The Honorable Ken Calvert
The Honorable Nick Smith
The Honorable Roscoe G. Bartlett
The Honorable Vernon J. Ehlers
The Honorable Dave Weldon
The Honorable Gil Gutknecht
The Honorable Chris Cannon
The Honorable George R. Nethercutt, Jr.
The Honorable Frank D. Lucas
The Honorable Judy Biggert
The Honorable John Abney Culberson
The Honorable W. Todd Akin
The Honorable Timothy V. Johnson
The Honorable Mike Pence
The Honorable Felix J. Grucci, Jr.
The Honorable Melissa A. Hart

The Honorable Ralph M. Hall
Ranking Minority Member
The Honorable Bart Gordon
The Honorable Jerry F. Costello
The Honorable James A. Barcia
The Honorable Eddie Bernice Johnson
The Honorable Lynn C. Woolsey
The Honorable Lynn N. Rivers
The Honorable Zoe Lofgren
The Honorable Nick Lampson
The Honorable Bob Etheridge
The Honorable Shelia Jackson-Lee
The Honorable John B. Larson
The Honorable Mark Udall
The Honorable David Wu
The Honorable Anthony D. Weiner
The Honorable Brian Baird
The Honorable Joseph M. Hoeffel
The Honorable Joe Baca
The Honorable Jim Matheson
The Honorable Steve Israel
The Honorable Dennis Moore

MINORITY ADDITIONAL VIEWS
FY 2002 VIEWS AND ESTIMATES
TO THE HOUSE BUDGET COMMITTEE
March 16, 2001

Introduction

Like last year, it is difficult to take a position on the Majority's Views and Estimates for FY2002 since the report fails to meet its legislative mandate of providing a five-year funding recommendation for agencies under our jurisdiction. Perhaps the majority's lack of detail reflects the lack of specificity in the President's budget document *A Blueprint for New Beginnings*. Despite its failings, however, many of us signed the Majority's Views and Estimates to show support for our new Chairman, and because the content of that report was both inoffensive and generally pointed in the right direction.

However, our deference to the Chairman should not be viewed as indifference to the fate of Federal research funding. What we know of the new Administration's budget concerns us. We are pleased to see a healthy increase for NIH in the request. Defense basic research may also fare well once the final budget is submitted. But the numbers available on NSF and NASA cause us deep concern. Neither of these premier science agencies receives a requested increase that even keeps pace with inflation. Lest some view our reaction to this request as overly partisan, we will rely on the reaction of another New York Republican to summarize our view: James Walsh, the House VA-HUD-IA Appropriations Subcommittee Chairman, dismissed the NSF request as falling surprisingly far short fiscally.

Almost three years ago, the Majority released the oft-cited Science Policy Study. That document says that "To build upon the strength of the research enterprise we must make federal research funding stable and substantial." What that document didn't say is whether that steady and substantial funding should trend upwards or downwards in absolute terms over time. After all, a Federal research portfolio which slowly declines from $90 billion to $80 billion does show a steady and substantial funding profile. Unfortunately, the Majority's Views add no clarification to the vague language of that report. Such ambiguity and indecision, in the newly tightened budget climate, is dangerous.

We want to clearly state that we believe — along with such diverse sources as Allen Bromley, Federal Reserve Chairman Greenspan, Andy Grove of INTEL, and the Hart-Rudman Commission on National Security— that Federal funding for research is a necessary precondition for continued economic success and security in our high technology economy. We also believe that funding for our science agencies—all of our agencies, not just a select set—must be increased.

National Science Foundation

In light of the essential role research plays in driving the economy and serving national security, it is disappointing that the Administration's requests for NSF and other civilian science agencies (with the exception of NIH) are at or below appropriations levels for the current fiscal year. For NSF, the budget request proposes a total increase of only $56 million (1.3%), and all of that and more goes to education programs rather than research. Adjusted for inflation, this request will result in a three to four percent decline in NSF's budget for competitive research grants.

Within this declining budget, NSF is instructed to launch a $200 million initiative in science education, introduce a new program in mathematics research, and maintain existing research initiatives in information technology, bio-complexity and nano-technology. The core, discipline-based research programs at NSF will be eroded both by inflation and by these new initiatives.

Of course, the Majority understands the importance of federally supported research and no doubt agrees that NSF plays a vital role in support of basic research and education across all fields of science and engineering. Unfortunately, their budget guidance fails to follow through. We were surprised that the Majority did not recommend a robust funding level for NSF. At a bare minimum we believe they could advocate a funding increase for the Foundation that keeps pace with inflation for all the programs at the agency.

Vowing to work with the Administration to ensure that funding is in line with the agency's importance is an inadequate position in a document that will guide the Budget Committee in its mid-March markup of a Budget Resolution. We too will work with the administration, but we believe it is necessary to increase the NSF budget for FY 2002 by at least 15% to enable the Foundation to carry out adequately its vital role in support of science and engineering education and research. We agree with Dr. D. Allen Bromley, former President Bush's science advisor from 1989-1993, who made the following statement regarding the Administration's FY 2002 funding request in a March 9 *New York Times* op-ed:

> "The Bush budget includes cuts, after accounting for inflation, to the three primary sources of ideas and personnel in the high-tech economy: NSF is cut by 2.6 percent, NASA by 3.6 percent, and the Department of Energy by an alarming 7.1 percent. The proposed cuts to scientific research are a self-defeating policy. Congress must increase the federal investment in science. No science, no surplus. It's that simple".

National Aeronautics and Space Administration

With regard to the National Aeronautics and Space Administration there are several points that need to be made if the Budget Committee is to have a proper context for its deliberations. We would note that the proposed percentage increase in NASA's funding

level is only the average increase proposed for the Federal government's discretionary accounts. This increase, which is lower than inflation, when coupled with the dismal requests for other civilian R&D agencies, sends a negative message about the relative priority that the Administration attaches to Federal investments in cutting-edge research and development.

It is discouraging that the Administration is intent on cutting NASA's aeronautics programs, would eliminate two planned space science projects (the Pluto-Kuiper Express and Solar Probe missions), discontinue remote sensing and environmental applications projects, and "reduce" information technology programs. No convincing rationale for those cuts is provided other than the implicit one of attempting to meet an artificially low funding level for NASA as a whole. The Administration's budget request proposes making significant changes to the International Space Station program. We strongly believe that the Administration needs to ensure that any actions taken to mitigate the effects of cost growth do not wind up undermining the utility of the research facility in which we have invested so many taxpayer dollars. At a minimum, we would advise the Budget Committee to provide a budget increase to NASA that tracks the rate of technical inflation.

Other Agencies

What we are hearing about the treatment of research accounts at the Department of Energy and Interior also concerns us. The budget lacks much detail on these areas, but rumors of cuts up to 20 percent seem to be dominating the specialized press for these agencies.

One specific example that has received wide treatment in the press can be found in the reports of a seven percent cut to the renewable and efficiency energy research programs at the Department of Energy. Such a step would be an unwise approach to reducing our dependence on foreign oil and diversifying our energy production portfolio. The Bush budget and the Majority Views claim an increase in this account, but it would not materialize until FY04 and then only under the far-from-certain scenario of oil extraction from the Arctic National Wildlife Refugee. We would ask the Budget Committee to recommend that these programs continue to grow at a rate equivalent to that approved by the Republican Congress over the past several years.

Conclusion

Finally, many in the science and education community have begun to ask whether there is an "imbalance" in our research portfolio, with too much funding being concentrated in the biomedical sciences. The administration, by flat funding NSF while moving NIH along the path towards its five-year doubling goal, exacerbates this problem. We don't pretend to know what the exact balance among science investments should be, but our intuitive sense is that there is already an imbalance, and making it worse is not a productive step.

The Majority's promise to work with the Administration to see if the portfolio is too heavily weighted toward the NIH is too weak. Frankly, this is a step back from last year's views, when the Majority condemned an over-investment in biomedical work to the exclusion of other fields. The FY2001 Committee Views stated that "contributions of computer science, physics, mathematics, engineering and other fields to biomedical research illustrate the need to secure funding for fundamental science as part of the Federal Government's overall research agenda." This language is more in keeping with our views.

We stand ready to work with the Majority in the effort to educate the new Administration on the importance of Federal R&D to our economic vitality and national security. We stand ready to engage the Administration in an ongoing dialogue about the best way to invest in the future of our Nation. However, we know that the Budget Committee cannot wait for that day when the Administration comes to understand the obvious—that R&D is the lifeblood of innovation and underlies economic growth. Therefore, we have tried to provide at least minimal guidance on how to responsibly treat civilian research accounts in the FY2002 budget.

Ralph M. Hall, MC
Bart Gordon, MC
Jerry F. Costello, MC
James A. Barcia, MC
Eddie Bernice Johnson, MC
Lynn C. Woolsey, MC
Lynn N. Rivers, MC
Zoe Lofgren, MC
Sheila Jackson Lee, MC
Bob Etheridge, MC
Nick Lampson, MC
John B. Larson, MC
Mark Udall, MC
David Wu, MC
Anthony D. Weiner, MC
Brian Baird, MC
Joseph M. Hoeffel, MC
Joe Baca, MC
Jim Matheson, MC
Steve Israel, MC
Dennis Moore, MC

THE HONORABLE JOE BACA
ADDITIONAL VIEWS
FY 2002 VIEWS AND ESTIMATES
TO THE HOUSE BUDGET COMMITTEE
March 14, 2001

I am concerned that the President's proposed budget will cut funding for science and technology programs, costing us good, well-paying jobs – jobs that are created by small businesses in the new Global Economy.

I am concerned about proposed reductions in programs such as the Advanced Technology Program and the Manufacturing Extension Partnership of the National Institute of Standards and Technology (NIST). Cuts in these programs will affect our Nation's competitiveness.

The National Institute of Standards and Technology is our Nation's oldest Federal laboratory, with a mission that dates back to the founding of our Republic. NIST employs about 3,300 people, with some of our Nation's finest and most dedicated Federal scientists, including Nobel Prize winners.

In the past 100 years, NIST has helped to maintain United States technology at the cutting edge, while also making contributions to our economy and international competitiveness. Many advances can be traced to the assistance of the National Institute of Standards and Technology, including satellite systems, communication and transportation networks, image processing, DNA diagnostic `chips', smoke detectors, automated error correcting software for machine tools, atomic clocks, X-ray standards for mammography, scanning tunneling microscopy, pollution control technology, high-speed dental drills, laboratories, factories, hospitals, businesses, and the extended enterprises of the new economy.

I am also troubled by potential proposed cuts in other science programs, such as an apparent decision to cut the Energy Department's budget to $19 billion, roughly $700 million below current levels. At a time when our states, including California, are facing great challenges in providing sufficient energy, and at reasonable prices, we should not be cutting funding for programs, such as those which explore renewable energy sources.

America has been on a course of jobs and prosperity, developed by the hard work of the American people over the last eight years. We should not change course. We still have much work to do in our communities, to encourage research and development, foster small business development, launch new high-tech revolutions. We must create new jobs, provide educational opportunities, ensure that all who are willing to work can advance.

Therefore, as the Congress celebrates this year the centennial of NIST and its proud traditions, let us resolve not unilaterally to disarm our nation of the finest minds and resources, which have led to an economic and technological renaissance. Our nation is the admiration of the modern world. People come here to learn in our universities, work in our corporations, and find a better life. Let us resolve to continue our fight to keep America number-one in scientific innovation and job creation.

ADDITIONAL VIEWS AND ESTIMATES OF REPRESENTATIVE JUDY BIGGERT

While I share the views of the Science Committee as outlined in its views and estimates for Fiscal Year 2002, I wanted to take this opportunity to emphasize an issue of particular importance to me.

Scientific research may not be as politically popular as health care and education right now, but science is as important to progress in these two areas as it is to America's continued economic growth and national security. It is for this reason that I believe Congress must maintain the federal government's commitment to scientific research and development by increasing funding for the Department of Energy's (DOE) Office of Science.

Economic experts maintain that today's unprecedented economic growth would not have been possible were it not for the substantial investment in research made by the public and private sectors over the past several decades. For America to continue to benefit from this kind of investment, we must provide strong financial support for basic research across all of the scientific disciplines – including the DOE's Office of Science.

The Office of Science is the nation's primary supporter of the physical sciences, providing an important partner and key user facilities in the areas of physics, mathematics and advanced computing, chemistry, geology, biology, environmental sciences, and engineering. The Office of Science supports a unique system of programs based on large-scale, specialized user facilities and large teams of scientists focused on national priorities.

This makes the Office of Science unique among, and complementary to, the scientific programs of many other federal science agencies, including the National Institutes of Health (NIH) and the National Science Foundation (NSF). I applaud the strong support shown by Congress in recent years for research conducted within the NIH and NSF, and I commend President Bush for supporting efforts to double NIH funding by 2003.

This level of support should be extended to DOE's Office of Science because future medical breakthroughs depend on fundamental advances in the physical sciences and other research conducted by the Office of Science. One recent example is the Human Genome Project, which progressed so rapidly because of advanced computing technology and biological technology pioneered by the DOE Office of Science. Harold Varmus, former director of the NIH, said, and I quote, "Medical advances may seem like wizardry. But pull back the curtain, and sitting at the lever is a high-energy physicist, a combinational chemist, or an engineer."

Unfortunately, the reality of the situation is that while federally supported medical research like that conducted by NIH has skyrocketed, funding for research in the physical sciences has remained stagnant. During the past decade, funding in constant dollars for the DOE Office of Science was reduced by approximately 13 percent.

SUPPLEMENTAL VIEWS
VIEWS & ESTIMATES
SUBMITTED BY
CONSTANCE A. MORELLA
COMMITTEE ON SCIENCE
FISCAL YEAR 2002
MARCH 15, 2001

It is my understanding that the Committee's Views and Estimates do not call for the lessening of funding to the National Institutes of Health (NIH). However, to clarify this point, I wish to go on record as supporting the current funding path for NIH and recognize the many accomplishments made in biomedical research due to increased federal funding. I look forward with working with Chairman Boehlert, the Administration, and our other Congressional colleagues to develop ways to significantly increase funding for all basic science research programs.

It is the research itself that has been most significantly impacted, since the costs of maintaining existing facilities and their associated staffs continue to rise with inflation. This has prevented the Office of Science from fully participating in technical areas important to DOE's statutory mission, such as high performance computing and nanotechnology.

This erosion of resources has also reduced the number of scientists and students conducting physical science research at DOE's national user facilities and America's colleges and universities. This aspect alone could have a disastrous long-term effect.

Already, doctoral candidates are choosing life sciences over physical sciences. In 1999, the number of doctorates awarded in science and engineering was the lowest figure in six years. This trend is reflected in undergraduate degrees as well, which over the past decade have declined significantly.

Doubtless this exacerbates a shortage of highly skilled labor, posing a serious dilemma for academia, business, and government leaders alike because of the potential effect it could have on America's continued economic growth.

This shift in human capital and resources to the life sciences has had a dramatic impact on America's ability to engage in cutting edge physical sciences research. It also poses a threat to our national security, but you don't have to take my word for it.

According to the Hart-Rudman Report on National Security, and I quote "...the U.S. government has seriously underfunded basic scientific research in recent years. The quality of the U.S. education system, too, has fallen well behind those of scores of other nations. **...the inadequacies of our systems of research and education pose a greater threat to U.S. national security over the next quarter century than any potential conventional war that we might imagine."**

The report goes on to recommend doubling the federal government's investment in science and technology research and development by 2010. While I understand that it may not be practical to double the federal research and development budget this year, I believe Congress should take the necessary steps to move in that direction. One of the first steps should be to increase federal funding for the research and development conducted by the DOE Office of Science.

The Budget and Science Committees are key to taking that first step forward. By recommending that the Office of Science receive a substantial FY 2002 budget increase, these Committees can begin to reverse this troubling situation and help the DOE attract the best minds, support the maintenance and construction of modern facilities, and continue to provide the quality of scientific research that has been its trademark for so many years.

I look forward to working with the Budget and Science Committees, the administration, and the DOE to ensure adequate funding and continued oversight of the DOE Office of Science. Congress must continue to support the research that has been crucial to America's economic success, national security, and the health and education of its people.

SUPPLEMENTAL VIEWS
VIEWS & ESTIMATES for FISCAL YEAR 2002
COMMITTEE ON SCIENCE

MARCH 16, 2001

We are concerned about the state of the facilities of NIST's laboratories in my district in Boulder, Colorado.

In 1950, NIST established a cryogenic engineering laboratory and radio facilities on land donated by citizens of Boulder. NIST's Boulder facilities were expanded in the mid-1960s, when NIST and the University of Colorado (CU) joined forces to create the Joint Institute for Laboratory Astrophysics (JILA), a cooperative effort that has gained widespread recognition in atomic physics and other fields and that has yielded numerous amazing discoveries.

NIST's Boulder scientists have received the Nobel Prize in Physics and other internationally prestigious awards in recognition of their work. But the real distinction of NIST's Boulder labs is that its scientists have made such important scientific discoveries in an increasingly substandard working environment. As the Boulder facility approaches its 50th anniversary, we believe it is important for this Committee to recognize its distinct contribution to NIST's overall mission.

Last year NIST celebrated the completion of the Advanced Chemistry Science Laboratory at its Gaithersburg campus. After an $80 million investment, NIST can now boast another world-class facility in which to conduct more world-class research. Also at Gaithersburg just last year, ground was broken for the Advanced Measurement Laboratory, which has projected costs of over $200 million.

Now that Gaitherburg's needs have been addressed, NIST's Boulder campus is next in line to receive critical funding for construction and maintenance projects – this according to NIST's published plans listing construction and maintenance project priorities for the labs.

When visiting NIST's Boulder labs on March 9, Commerce Secretary Don Evans reportedly did not commit to fixing the problems at NIST, but did say his department needs to take care of "core needs" such as the ones at NIST.

We think it is essential that the Administration recognize the value of the Boulder labs' contributions and the necessity of upgrading the facilities so that the Boulder scientists can continue to produce top-flight research. NIST's Boulder campus has done much for Colorado and for the nation – and it can continue to do so. But to get the full value from this asset, we must invest properly in its upkeep.

Rep. Mark Udall

Rep. Vernon Ehlers

Rep. James Barcia

Rep. Constance Morella